

CLAIMS

What is claimed is:

1. A method for evaluating an asset, said method comprising:
  - (a) processing historical data for value of an asset and historical data values for plural exogenous variables to obtain a formula for calculating a measure of a tendency of the value of the asset to change as a result of changes in the data values for the exogenous variables, wherein said formula is a function of the exogenous variables;
  - (b) obtaining projected data values for the exogenous variables; and
  - (c) estimating a measure of the tendency of the value of the asset to change based on a change in at least one of the exogenous variables using the formula obtained in step (a) and the projected data values input in step (b).
2. A method according to Claim 1, wherein said asset comprises a share of stock in a corporation.
3. A method according to Claim 1, wherein said asset comprises a portfolio of shares of stock in plural different corporations.
4. A method according to Claim 1, wherein said asset comprises an index.
5. A method according to Claim 1, wherein said asset comprises a mutual fund.
6. A method according to Claim 1, wherein the value of said asset comprises a market price for said asset.
7. A method according to Claim 1, wherein step (a) comprises calculating a price formula that describes the value of said asset as a function of said exogenous variables and then estimating a derivative of said price formula to obtain said formula.

8. A method according to Claim 7, wherein said price formula is obtained by performing a non-linear regression using said historical data for the value of the asset and said historical data values for the plural exogenous variables.

9. A method according to Claim 7, wherein said price formula is obtained by performing neural network processing using said historical data for the value of the asset and said historical data values for the plural exogenous variables.

10. A method according to Claim 7, wherein said price formula is in a format of a truncated Taylor series expansion.

11. A method according to Claim 10, wherein said price formula is in a format of a truncated Maclaurin series expansion.

12. A method according to Claim 7, wherein said price formula describes a logarithm of the value of said asset as a function of logarithms of said exogenous variables.

13. A method according to Claim 1, wherein step (b) comprises obtaining current values for said exogenous variables and allowing a user to alter plural of said current values to produce a "what if" scenario, and wherein data values for said "what if" scenario are used as said projected data values for the exogenous variables.

14. A method according to Claim 1, further comprising a step of repeating steps (b) and (c) using different projected data values for the exogenous variables.

15. A method according to Claim 1, wherein said tendency of the value of the asset to change based on the change in said at least one of the exogenous variables is a measure of elasticity of the value of the asset to said at least one of the exogenous variables.

16. A method according to Claim 1, wherein said tendency of the value of the asset to change based on the change in said at least one of the exogenous variables is a measure of sensitivity of the value of the asset to said at least one of the exogenous variables.

17. A method according to Claim 1, further comprising a step of:

(d) determining whether said formula is capable of estimating said measure of the tendency of the value of the asset to change based on a change in said at least one of the exogenous variables with sufficient reliability.

18. A method according to Claim 17, wherein step (d) comprises performing Student's t-test.

19. A method according to Claim 1, further comprising a step of initiating at least one of a purchase of said asset and a sale of said asset based on the estimate made in step (c).

20. A method according to Claim 1, further comprising a step of initiating at least one of a purchase of an other asset and a sale of said other asset based on the estimate made in step (c).

21. A method according to Claim 1, further comprising steps of:

(d) repeating steps (a) through (c) for plural different assets; and

(e) selecting a subset of said plural different assets based on the measure estimated for each of said plural different assets in step (c).

22. A method according to Claim 21, further comprising a step of:

(f) determining whether the formula for each of said plural different assets is capable of estimating the measure for said each of said plural different assets in step (c) with sufficient reliability, and

5 wherein the subset of each of said plural different assets is selected in step (e) based on the determinations made in step (f).

23. A method according to Claim 1, wherein said formula is obtained by performing a non-linear regression using said historical data for the value of the asset and said historical data values for the plural exogenous variables.

24. A method according to Claim 1, wherein said formula is obtained by performing neural network processing using said historical data for the value of the asset and said historical data values for the plural exogenous variables.

25. A method according to Claim 24, wherein said formula comprises a price formula that describes the value of said asset as a function of said exogenous variables.

26. A method according to Claim 25, wherein said measure of tendency to change is calculated by inputting different data values for the exogenous variables and observing how an output of said price formula changes as a result of small changes in the data values for the exogenous variables.

27. A method according to Claim 1, wherein said formula is obtained by using a genetic algorithm.

28. A method for evaluating a portfolio of assets, said method comprising:  
(a) processing historical data for value of an asset and historical data values for plural exogenous variables to obtain a price formula for estimating the value of the asset as a function of the exogenous variables;

5 (b) calculating a measure of a tendency of the value of the asset to change as a result of a change in the data value for at least one of the exogenous variables;

(c) repeating steps (a) and (b) for each of plural assets;

(d) combining the measures calculated in step (b) for each asset in a portfolio in order to determine a measure of the tendency of the value of the portfolio to  
10 change as a result of a change in the data value for said at least one of the exogenous variables; and

(e) altering an asset composition of the portfolio and repeating step (d).



29. A method according to Claim 28, wherein step (b) comprises estimating a derivative of said price formula.

30. A method according to Claim 28, wherein said price formula is obtained by performing a statistical regression analysis using said historical data for the value of the asset and said historical data values for the exogenous variables.

31. A method according to Claim 28, wherein said price formula is in a format of a truncated Taylor series expansion.

32. A method according to Claim 28, wherein said price formula describes a logarithm of the value of said asset as a function of logarithms of said exogenous variables.

33. A method according to Claim 28, further comprising a step of repeating steps (b) and (d) using different sets of values for the exogenous variables.

34. A method according to Claim 28, wherein said price formula is obtained by performing neural network processing using said historical data for the value of the asset and said historical data values for the plural exogenous variables.

35. A method according to Claim 34, wherein said measure of tendency to change is calculated by inputting different data values for the exogenous variables and observing how an output of said price formula changes as a result of small changes in the data values for the exogenous variables.

36. A method according to Claim 28, wherein said price formula is obtained by using a genetic algorithm.

37. An apparatus for evaluating an asset, said apparatus comprising:  
(a) means for processing historical data for value of an asset and historical data values for plural exogenous variables to obtain a formula for calculating a

measure of a tendency of the value of the asset to change as a result of changes in  
 5 the data values for the exogenous variables, wherein said formula is a function of the  
 exogenous variables;

(b) means for obtaining projected data values for the exogenous variables;  
 and

(c) means for estimating a measure of the tendency of the value of the asset  
 10 to change based on a change in at least one of the exogenous variables using the  
 formula obtained in step (a) and the projected data values input in step (b).

38. An apparatus for evaluating a portfolio of assets, said apparatus  
 comprising:

(a) means for processing historical data for value of an asset and historical  
 data values for plural exogenous variables to obtain a price formula for estimating  
 5 the value of the asset as a function of the exogenous variables;

(b) means for calculating a measure of a tendency of the value of the asset  
 to change as a result of a change in the data value for at least one of the exogenous  
 variables;

(c) means for repeating the processing and calculating performed by means  
 10 (a) and (b) for each of plural assets;

(d) means for combining the measures calculated by means (b) for each asset  
 in a portfolio in order to determine a measure of the tendency of the value of the  
 portfolio to change as a result of a change in the data value for said at least one of  
 the exogenous variables; and

15 (e) means for altering an asset composition of the portfolio and repeating step  
 (d).

39. A computer-readable medium storing computer-executable process  
 steps for evaluating an asset, said process steps comprising steps to:

(a) process historical data for value of an asset and historical data values for  
 plural exogenous variables to obtain a formula for calculating a measure of a  
 5 tendency of the value of the asset to change as a result of changes in the data  
 values for the exogenous variables, wherein said formula is a function of the  
 exogenous variables;

- (b) obtain projected data values for the exogenous variables; and
  - (c) estimate a measure of the tendency of the value of the asset to change
- 10 based on a change in at least one of the exogenous variables using the formula obtained in step (a) and the projected data values input in step (b).

40. A computer-readable medium storing computer-executable process steps for evaluating a portfolio of assets, said process steps comprising steps to:

- (a) process historical data for value of an asset and historical data values for plural exogenous variables to obtain a price formula for estimating the value of the
- 5 asset as a function of the exogenous variables;
- (b) calculate a measure of a tendency of the value of the asset to change as a result of a change in the data value for at least one of the exogenous variables;
  - (c) repeat steps (a) and (b) for each of plural assets;
  - (d) combine the measures calculated in step (b) for each asset in a portfolio
- 10 in order to determine a measure of the tendency of the value of the portfolio to change as a result of a change in the data value for said at least one of the exogenous variables; and
- (e) alter an asset composition of the portfolio and repeat step (d).

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